



Marseilles Lock & Dam

(Marseilles, Illinois)
Illinois River

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Construction: 1920-1933

General Contractors:

Lock: Green and Sons Company, Chicago, Illinois & Independent Bridge Company, Pittsburgh, Pa.

Marseilles Canal: Callahan Construction Company, St. Louis, Mo.

Congressional District: IL-11

Description

Marseilles Lock is 244.6 miles above the confluence of the Illinois River with the Mississippi river at Grafton, Illinois, at the foot of Bells Island. Marseilles Dam is 2.5 miles upstream of the lock at the head of Bells Island.

The lock and dam is located southwest of Marseilles, Ill., near Illini State Park. The Marseilles Canal, adjacent to the left bank of the Illinois, extends from the dam to the lock. There are hydroelectric generating facilities at the dam.



The lock is 110 feet wide by 600 feet long. The maximum lift is 24.5 feet with an average lift lower than 24 feet. It takes an average of 15 minutes to fill the lock chamber; 10 minutes to empty it.

The dam is a fixed, gated-concrete, gravity dam. The main dam is 598.5-feet long with eight submersible Tainter gates (60-feet wide, 16-feet high, 25-foot radius) and Ogee spillway at Ice Chute. The gates are remotely controlled by the lockmaster at the lock. The South Channel Headrace dam is 111-feet long with one Tainter gate. The North Channel Headrace dam is 206-feet long with two Tainter gates. It takes six hours for water to travel from Dresden Island Lock and Dam to Marseilles during flood or high flow conditions.

History/Significance

The Marseilles complex was one of five begun by the state of Illinois in 1920. The dam was about 95 percent complete when construction was turned over to the federal government due to state financial difficulties. The lock was completed, except for the steel work, in August 1923. The contract for the lock gates, valves and lower approach wall was let in 1927. Marseilles Dam was completed in 1933 at a cost \$3,079,372, of which \$1,796,372 was funded by the state and \$1,283,000 was funded by the government.

Annual Tonnage (20-Year Historical)

<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>
1992	20,696,379	1997	18,883,637	2002	20,132,588	2007	17,221,068
1993	21,175,753	1998	21,002,312	2003	19,619,082	2008	15,657,070
1994	23,964,211	1999	19,155,838	2004	21,754,394	2009	14,182,160
1995	19,109,651	2000	20,237,408	2005	20,139,348	2010	14,125,162
1996	18,383,546	2001	20,886,084	2006	21,043,379	2011	14,548,844

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CLOCK TOWER BUILDING, P.O. BOX 2004, ROCK ISLAND, IL 61204-2004
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Commodity Tonnage & Lockages (2011)

Coal	1,148,481
Petroleum	3,509,660
Chemicals	2,649,928
Crude Materials	3,896,544
Manufactured Goods	1,822,696
Farm Products	1,216,824
Manufactured Machinery	242,694
Waste Material	38,900
Containers & Pallets	1,600
Unknown	21,517

<u>Subtotals:</u>	Grain	963,680
	Steel	813,896

<u>Lockages:</u>	Commercial Boats:	2,487
	Recreation Boats:	1,173
	Light Boats:	277
	Other Boats:	83
	Total Boats:	4,020
	Total Cuts:	3,944

Current Maintenance Issues

Item (Critical Rank Order)

- | | |
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| <ul style="list-style-type: none"> • Systemic Miter Gate Replacement • Causeway Concrete Repairs • Rebuild Miter Gate Machinery • Lock Concrete and Steel Repairs • Install New High Mast Lighting • Systemic Control Stand Replacement | <ul style="list-style-type: none"> • Systemic Filling Valve Replacement • Repair Electrical Cable Trenches • Repair Concrete Upper Right Guidewall • Lower Guidewall Rehabilitation • Replace Standby Generator • New Maintenance Building |
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TOTAL ESTIMATED COST: \$40,000,000

The existing 9-foot Channel Navigation Project was largely constructed in the 1930s and extends down the Upper Mississippi River from Minneapolis-St. Paul to its confluence with the Ohio River and up the Illinois Waterway to the Thomas J. O'Brien Lock in Chicago. It includes 37 Locks and approximately 1,200 miles of navigable waterway in Illinois, Iowa, Minnesota, Missouri and Wisconsin.

The maintenance needs of the aging infrastructure are increasing at a rate much greater than the operations and maintenance funding provided for the system. This is adversely affecting reliability of the system. Long-established programs for preventative maintenance of major lock components have essentially given way to a fix-as-fail strategy, with repairs sometimes requiring weeks or months to complete. Depending on the nature of a lock malfunction, extended repairs can have major consequences for shippers, manufacturers, consumers, and commodities investors.

The system's 600-foot locks do not accommodate today's modern tows without splitting and passing through the lock in two operations. This procedure requires uncoupling barges at midpoint which triples lockage times and exposes deckhands to increased accident rates.

More than 580 manufacturing facilities, terminals, and docks ship and receive tonnage in the Upper Mississippi River basin. Grains (corn and soybeans) dominate traffic on the system. Other commodities, mainly cement and concrete products, comprise the second largest group. A modern 15-barge tow transports the equivalent of 1,050 large semi-trucks (26,250 cargo tons, 875,000 bushels, or 17,325,000 gallons). Annually, the 9-foot project generates an estimated \$1 billion of transportation cost savings compared with the operation and maintenance costs of approximately \$115 million.

UPDATE: October 2012

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